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INTERIM STUDY
BY THE
REVENUE OVERSIGHT COMMITTEE

INCOME TAX INDEXING

November 1978

Published by

MONTANA LEGISLATIVE COUNCIL

State Capitol

Helena, Montana 59601

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INCOME TAX INDEXING

A REPORT TO THE
FORTY-SIXTH LEGISLATURE

REVENUE OVERSIGHT COMMITTEE

November 1978

Membership
Revenue Oversight Committee

Rep. Herb Huennekens, Chairman	Sen. William Mathers, Vice-Chairman
Rep. W. Jay Fabrega	Sen. Larry Fasbender
Rep. Harrison Fagg	Sen. Pat Goodover
Rep. Robert Sivertsen	Sen. Thomas Towe
Rep. John Vincent	Sen. Jean Turnage
Rep. J. Melvin Williams	Sen. Robert Watt

Staff Researcher: Teresa Olcott Cohea

The Committee's activity was funded by money appropriated in HB 842, Laws of 1977.

SUMMARY AND COMMITTEE RECOMMENDATION

To remain informed about currently discussed reforms in taxation, the Committee reviewed a background paper on income tax indexing. This paper, attached, discusses the effect of inflation on both state and federal income tax liability, tax collections, and tax equity. It outlines various methods of indexing income tax structures and reviews other countries' experiences with these methods. Lastly, the research report summarizes arguments for and against income tax indexing.

The Committee discussed the concept of income tax indexing but did not recommend a bill on the subject.*

* While approving this Committee statement, Senator Pat Goodover added, "This needs more consideration. Indexing is the only way to keep inflation from adversely affecting the taxpayer and should have continued study during the next session."

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DIRECTOR RESEARCH

TO: Revenue Oversight Committee

FROM: Teresa Olcott Cohea *TTC*

RE: Income Tax Indexing

At its last meeting, the Committee requested me to prepare a brief background paper on income tax indexing. The attached memorandum discusses the following points:

- A. Definition of income tax indexing
- B. Effect of inflation on income tax liability
- C. Effect of inflation on state income tax collections
- D. Effect of inflation on tax equity
- E. Methods of indexing income tax structures
- F. Arguments for and against income tax indexing
- G. Other countries' experience with indexing
- H. Colorado's new indexing law

On page 2, paragraph two, first sentence should read, "Since 1972, the Consumer Price Index has risen an average 6.6% a year."

INFLATION ON INCOME TAX LIABILITY

ly, inflation places taxpayers' additional higher tax bracket. In a highly progressive tax system, this can increase taxpayers' liability markedly, particularly true in the federal income tax with graduated tax brackets. Federal personal income taxes rise about 1.6% for every 1% increase in inflation.¹

inflation on Montana's income tax has been low income taxpayers but less for middle and higher income taxpayers. This results from our tax rates, which rise at lower income levels, rise more slowly at higher income levels, and do not increase at all for income in excess of \$35,000:

AFTER PERSONAL EXEMPTION	TAX RATE %
- 1,000	2
- 2,000	3
- 4,000	4
- 6,000	5
- 8,000	6
- 10,000	7
- 14,000	8
- 20,000	9
- 35,000	10
55,000	11

-2-

The milder progressivity at the upper levels of the rate structure has lessened the effects of inflation for higher income taxpayers. For example, a taxpayer's income could increase from \$14,000 to \$20,000 -- a 43% increase -- and his marginal tax rate [the rate at which the portion of his income over \$14,000 is taxed] would continue to be 9%. The marginal tax rate on taxable incomes over \$35,000 continues to be 11%, no matter how high the income climbs.

The effect of inflation on the state tax is further reduced by our statute allowing federal taxes to be deducted in computing adjusted gross income. Since the "inflation bite" on federal taxes is so great, it increases state taxpayers' deductions significantly.

Nonetheless, inflation has had decided effects on Montana taxpayers' income tax liability -- particularly in the lower tax brackets. A taxpayer whose taxable income increased from \$5,500 in 1974 to \$6,150 in 1977 -- which would have kept him just abreast of inflation -- would have moved from a 5% marginal tax rate to 6%. His total tax liability would have increased from \$226 in 1974 to \$263 in 1977. Therefore, the "inflation tax" reduced his real purchasing power in 1977 by \$37.

Inflation creates bigger state income tax bills even if a taxpayer's marginal bracket does not change. A taxpayer earning a taxable income of \$10,000 in constant 1973 dollars in 1974 and 1977 would have owed \$699 in state income tax in 1974 and \$730 in 1977, even though his top tax rate remained 8%.²

2) Inflation also reduces the value of fixed exemptions. Since 1974, the personal exemption has been \$650. In 1976 dollars, this exemption was worth \$566. The decreased value of this exemption affects low income taxpayers more markedly than higher income taxpayers because the exemption is a higher percentage of their total taxable income.

3) Inflation also reduces the value of the standard deduction. This may be of less concern, since over 75% of all state taxpayers itemize their deductions. However, the \$500 standard deduction has not been increased since 1955, so its value in 1976 dollars was \$237.

Itemized deductions tend to be "self-indexing" because they increase as inflation increases. In some cases, in fact, deductible payments such as home mortgage interest, consumer loans, and medical expenses are rising faster than the general price level and thus are actually decreasing taxpayers' liability.

DEFINITION

Income tax indexing is a procedure that adjusts the basic components of individual income taxation -- rate brackets, personal exemptions, deductions, and credits -- for changes in the general price level. The purpose of these adjustments is to mitigate the effects of inflation on taxpayers' income tax liability. If an income tax system is fully indexed, the taxpayer pays a constant percentage of his income as tax, despite inflation. Indexing is also called "escalation" and "monetary correction."

THE EFFECT OF INFLATION ON INCOME TAX LIABILITY

Since 1972, the Consumer Price Index has risen an average 9.6% a year. This sustained inflation has had a significant impact on income taxation. The effects of inflation on the tax structure are detailed below.

1) Most obviously, inflation places taxpayers' additional income into a higher tax bracket. In a highly progressive tax structure, this can increase taxpayers' liability markedly. This is particularly true in the federal income tax with its steeply graduated tax brackets. Federal personal income tax revenues rise about 1.6% for every 1% increase in income per taxpayer.¹

The effect of inflation on Montana's income tax has been substantial for low income taxpayers but less for middle and high income taxpayers. This results from our tax rates, which rise steeply at lower income levels, rise more slowly in middle income brackets, and do not increase at all for taxable income in excess of \$35,000:

NET INCOME AFTER PERSONAL EXEMPTION	TAX RATE %
\$ 0 - 1,000	2
1,001 - 2,000	3
2,001 - 4,000	4
4,001 - 6,000	5
6,001 - 8,000	6
8,001 - 10,000	7
10,001 - 14,000	8
14,001 - 20,000	9
20,001 - 35,000	10
Over 35,000	11

[The 10% surcharge is imposed upon the total tax liability.]

The milder progressivity at the upper levels of the rate structure has lessened the effects of inflation for higher income taxpayers. For example, a taxpayer's income could increase from \$14,000 to \$20,000 -- a 43% increase -- and his marginal tax rate [the rate at which the portion of his income over \$14,000 is taxed] would continue to be 9%. The marginal tax rate on taxable incomes over \$35,000 continues to be 11%, no matter how high the income climbs.

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Itemized deductions tend to be "self-indexing" because they increase as inflation increases. In some cases, in fact, deductible payments such as home mortgage interest, consumer loans, and medical expenses are rising faster than the general price level and thus are actually decreasing taxpayers' liability.

4) Inflation also distorts computation of capital gains. Since capital gains are calculated by subtracting the price at which property was originally purchased from the price realized in the taxable year and taxing half this amount, taxpayers pay taxes on increased value caused by both real growth and inflation. To illustrate, suppose a homeowner bought a vacation home worth \$5,000 in 1950 and sold it for \$15,000 in 1976. His capital gain was \$10,000, \$5,000 of which is taxable. However, \$5,338 of the \$10,000 gain is attributable to inflation of the dollar only, not real growth. The taxpayer is taxed on the entire amount of his actual gain.

Interest income is similarly distorted by rapid inflation. While the \$70 a taxpayer earns on a \$1,000 certificate of deposit is taxable as income, it may, in fact, represent a net loss if inflation is running at 10%.

THE EFFECT OF INFLATION ON STATE INCOME TAX COLLECTIONS

Increased tax liability at all levels of Montana taxpayers' income has brought extra income tax revenue into the state's treasury, as the collection figures for the past five years show.

YEAR	TOTAL PERSONAL INCOME TAX COLLECTIONS (FY)
1977	\$111,936,817
1976	97,520,295
1975	88,599,414
1974	78,757,516
1973	77,065,529
1972	68,129,853 ³

Part of this increase is due to real growth in the economy and to increased auditing of returns, but Tom Winn, economist for the Department of Revenue Research Division, estimates that some portion of the following amounts of personal income tax receipts is attributable directly to inflation:

FY 77	\$ 4,900,000
FY 76	6,500,000
FY 75	7,500,000

Inflation-generated income tax increases have been cited as one factor contributing to the 1976 budget surplus.

EFFECT OF INFLATION ON TAX EQUITY

Inflation distorts the tax structure as enacted and may affect classes of taxpayers very differently. The effective

tax rates produced by inflation may run counter to the intent of the legislation as originally enacted.

A November 1976 ACIR study of the effects of inflation on the federal income tax found:

a) Inflation is especially hard on low income families and all families with many dependents because it erodes the value of personal exemptions, the low income allowance, the maximum limit of the standard deduction, and per capita credits.

b) On the average, increases in tax liabilities due to the inflation erosion of income tax brackets will be greater for taxpayers in the upper income range -- \$28,000 to \$200,000 -- where brackets are narrow and the rise in tax rates between brackets is fastest.

c) The middle income taxpayers (between \$10,000 and \$25,000) incur the smallest decline in real, after-tax purchasing power due to the inflation-income tax interplay, in which the value of deductions rises more quickly than inflation.⁴

While no exhaustive study of the effects of inflation on various classes under Montana's income tax has yet been undertaken, the tax structure suggests that low income taxpayers (\$0-\$10,000) have been hardest hit by the inflation and middle income taxpayers (\$10,001-\$25,000) less so. Montanans with taxable incomes over \$35,000 have experienced less state tax liability caused by inflation than the other groups because their tax rate does not increase as their income climbs.

METHODS OF INDEXING INCOME TAX STRUCTURES

There are various ways to index an income tax structure for inflation. The major methods are discussed below.

Complete indexing

In a complete income tax indexing system, all elements of the tax structure are adjusted for inflation. Under this system, not only are tax brackets, deductions, and exemptions indexed, but capital gains, income interest, and debts are also adjusted. This may be done by deflating all elements to a constant dollar. For example, the legislature could establish 1973 as a base year and deflate all money income, capital gains, and deductions to this base. The tax rate would then be applied to the real value, despite inflation, and capital gains and losses would be measured in constant dollars.

None of the countries currently using an indexed tax system have used this method; none adjust capital gains or interest increase for inflation.⁵

Partial indexing

Argentina, Brazil, Canada, Chile, Denmark, France, Ireland, Israel, Luxembourg, Switzerland, the Netherlands, and Uruguay -- the countries in which income taxes are indexed -- use a system of partial rather than complete indexation. In most of these countries, income tax brackets, exemptions, and deductions are indexed, but capital gains, interest, and debts are not.

These countries have used the following methods of partial indexing:

1) Exempt the increase in income attributable to inflation. If a worker received a 7% cost-of-living increase, this would not be taxable. Israel used this system between 1964 and 1975, when it was replaced with a price escalator method, described below.

A disadvantage of this method is that income tax revenue drops progressively, since taxable income remains constant in nominal terms but declines in real terms.

2) Deflate adjusted gross income to a base year. One Swiss canton follows this approach, using the cost-of-living index for January 1953 as the base. This system is, however, complicated and could create difficulty for citizens calculating their own taxes.

3) Introduce price escalators into the income tax structure so that rates apply to constant real incomes, and brackets, exemptions, and deductions are increased annually at a rate equal to the rate of inflation. Scholars have praised this approach and most countries with an indexed system have used some variant of it.

Canada adjusts exemptions and rate brackets annually for changes in the Consumer Price Index. If the CPI showed 100 in 1975 and 105 in 1976, all the indexed features of the income tax would be multiplied by 1.05. France adjusts the tax brackets only when inflation in any one year exceeds 5%. This method does not adjust for cumulative, creeping inflation. Luxembourg combats this problem by adjusting exemptions and tax brackets wherever price indexes show a 5% inflation since the last adjustment. The Dutch legislature provides for indexing regardless of the amount of inflation but limits the adjustment to 80% of the rise if taxing authorities find that "financing difficulties" would

result from full indexing. Israel's new indexing system requires the adjustment of tax credits and tax deductions to reflect inflation, but tax brackets are adjusted to reflect the entire increase only if the Minister of Finance approves. Argentina automatically indexes exemptions and deductions, but tax brackets can be revised only by legislative action.⁶

One important consideration in any system of indexation is which index will be used. The index used depends primarily upon the government's goal. If it desires to limit the government's revenue from increased wages, whether the increase is due to inflation or real growth, it would choose an income index. Denmark, for example, switched from a price index as the basis for indexation to the average hourly earnings of industrial workers in 1974.

Consumer price indices have been more widely used as the basis for indexing, since most governments' goal has been to keep taxpayers' purchasing power constant.⁷ Questions have been raised, however, in America and other countries whether a national price index reflects regional consumption patterns. The newly revised Consumer Price Index attempts to compensate for this by pricing a slightly varying "market basket" of goods for each region.

Recent studies suggest, however, that in America a national price index is accurate for any region in percentage change in price over a period of time: individual prices may be incorrect for the area, but relative change is uniform throughout the country. This is to be expected in a country with mass distribution of consumer goods, where prices are set nationally rather than on a state or region basis.⁸

ARGUMENTS FOR AND AGAINST INCOME TAX INDEXING

The principal arguments advanced by supporters of income tax indexing are as follows:

- 1) It will end (or limit) distortions of tax equity caused by inflation. Taxpayers would not be pushed into higher tax brackets by inflation-generated pay raises or have the value of exemptions or deductions decreased, causing a higher tax liability relative to their real income.
- 2) It will increase government's accountability to citizens by making legislators debate and vote for tax increases rather than merely collect higher revenue generated by the "hidden surtax" of inflation.
- 3) It will slow government growth by limiting the tax collections generated by inflation and keeping private purchasing power constant.

4) It is easy and inexpensive to administer, since governments currently reprint tax tables and forms annually. The adjustments in the tax structure made necessary by indexing would be simple for revenue departments to calculate and could readily be incorporated into these forms and tables. Countries which have been indexing tax structures for over five years report that administrative costs are low.

An indirect effect of indexing is a further reduction of administrative costs. Increases in exemptions and tax brackets made necessary by inflation decrease the number of low income persons who must file returns. Since these taxpayers customarily pay little tax, eliminating their returns has cut administrative costs in some countries.

5) It does not increase compliance costs for taxpayers. If inflation adjustments are already incorporated in tax tables, citizens will expend the same effort completing returns as under the current system.

6) It will not affect the economy's stability. Traditional economics have held that the federal income tax works as a stabilizing force by taking funds out of private hands (through higher tax rates) when inflation is rampant, thus "cooling down" the economy. Numerous studies of indexing in other countries have concluded that indexing does not, however, decrease the short-run, built-in stability of income tax systems significantly.⁹

Opponents of income tax indexing argue as follows:

1) Specific tax cuts enacted by a legislature are preferable to indexing because they can be targeted to a certain class of taxpayers. Senior citizens' taxes, for example, could be lowered and the revenue loss offset by younger, higher income taxpayers.

2) Inflation increases the progressivity of income taxes and allows more redistribution of income.

3) Increased taxes generated by inflation are only a symptom; government spending is the disease. Geoffrey Brennan argues that governments can choose not to spend the funds and that hoping to cure wasteful expenditures by limiting revenue is a "fiscal illusion."

4) Indexing the federal income tax could jeopardize the stability of the nation's economy by increasing the funds in private hands during "heated" cycles in the economy.

5) Indexing could hurt local governments by decreasing the amount of funds available for revenue sharing or state aid. Local governments' reliance on property tax makes them

most vulnerable to inflation, since wage demands and costs of materials increase but tax revenue does not. Higher income tax collection allows funds to be redistributed to local government.

6) States facing "tight" fiscal situations cannot afford to index, since the increased revenue inflation produces allows them to balance their budgets (which, of course, the federal government does not have to do).¹⁰

OTHER COUNTRIES' EXPERIENCES WITH INDEXING

Since Canada's economy is similar in many ways to that of the United States', its experience with indexing may be most relevant. Beginning in 1974, Canada's federal income tax rate brackets and personal exemptions have been indexed for changes in the Consumer Price Index. The rate brackets and exemptions were increased 6.6% in 1974, 10.1% in 1975, and 11.3% in 1976. The married couple's exemption, for example, was increased from \$3,000 in 1973 to \$3,921 in 1976.

The table below shows the income tax savings taxpayers of various income levels realized as a result of indexing.

<u>Income</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
<u>Single - no dependents</u>			
\$ 5,000	\$ 36	\$ 54	\$ 66
10,000	63	97	103
50,000	407	667	638
 <u>Single - over 65 - no dependents</u>			
5,000	50	78	92
10,000	76	113	141
50,000	443	727	666
 <u>Married - two dependents</u>			
10,000	88	137	152
20,000	228	333	364
50,000	481	774	679

While the absolute tax reductions caused by this indexing have been larger for those with higher incomes, the percentage reductions in tax liabilities are much greater for smaller incomes than larger ones. The ratio of tax reduction to before-tax incomes is similar at most income levels. The increased exemptions and higher brackets also reduced the number of lower income persons required to file a return. The Minister of Finance estimated that the 1974 indexation eliminated the necessity of filing for 175,000 taxpayers and the 1974 indexation an additional 225,000.

Canada's tax revenue was decreased about \$400 million in 1974, \$750 million in 1975, and \$1,025 million in 1976 by indexing. Total income tax collection did increase in these years, however, due to real growth in the economy.

Indexation did not adversely affect Canada's economy, according to an ACIR study. In fact, Professors G. Jump and T. Wilson of the University of Toronto concluded after two years of indexation that:

"The additional fiscal drag which inflation would have generated with a tax-transfer system without indexation would have been sufficient to plunge the economy into recession in early 1975, unless offset by discretionary fiscal changes."¹¹

None of the countries using indexation have abandoned the system, although several have changed the index used or the components adjusted. Brazil originally began indexing in 1961 by tying personal exemptions and limits of tax brackets to minimum wage levels. When the government decided to hold the minimum wage level below the rate of inflation in 1964 in order to stabilize the economy, it was concerned that this would increase tax burdens at all levels of income. The Minister of Finance was given the option of adjusting tax brackets by the increase in either prices or the minimum wage. This combined approach has allowed significant changes in the tax structure. In 1974, the upper limits of the highest brackets were increased only 15% while the upper limits of the lowest brackets were raised 41%. In 1974, all brackets were increased 30%.

The Chilean government also based its first indexing law on the minimum wage levels, but in 1974 they changed to a price index. Denmark based its tax rates on consumer price indices between 1969 and 1974 but now uses a combined wage and price index.

The Dutch government is reputed to be unhappy with its automatic indexing system and has appointed an official committee to reassess the system and issue recommendations in 1978.¹²

Although indexing has been widely discussed, few state legislatures have yet debated indexing bills. Oregon and Colorado are exceptions, however. Seven index-related bills were introduced in Oregon during the 1978 session but none passed.

COLORADO'S INCOME TAX INDEXING LAW

The Colorado legislature passed an income tax indexing bill (HB 1194) in late April. This bill, making Colorado the first state in the nation with an indexed tax system, provides for the indexing of the exemptions, deductions, and tax brackets by an "inflation factor," to be set annually by the legislature. The legislature set the factor at 106% for this year. The personal exemption will be \$795 this year (106% of the current \$750 exemption), the standard deduction \$1,060 (106% of the current \$1,000 deduction), and tax brackets will be adjusted accordingly (\$1,060-\$2,120 instead of \$1,001-\$2,000). In setting the inflation factor, the legislature is not bound to any specific index but is bidden to take the Consumer Price Index and the Commodity Exchange into account. If the legislature does not set an "inflation factor" in any session, 106% will be used.

NOTES

1. Henry Chessman, "How to Create an Inflation Neutral Tax System," The Journal of Accountancy, August, 1975, p. 44.

2. Calculated from U. S. Department of Commerce, Statistical Abstract of the United States, 1976, p. 432. This source was used to deflate all the 1976 dollar amounts mentioned in the report.

3. Department of Revenue, Biennial Report, 1976, p. 124. 1977 figures from Tom Winn, Economist, Research Division, Department of Revenue.

4. Advisory Commission on Intergovernmental Relations, Inflation and Federal and State Income Taxes, November, 1976, pp. 5-6.

5. Vito Tanzi, "Adjusting Personal Income Taxes for Inflation: The Foreign Experiences," in Henry Aaron, ed., Inflation and the Income Tax, 1976. p. 226.

6. Ibid., pp. 215-231.

7. Edward Denison, "Price Series for Indexing the Income Tax System," in Aaron, pp. 233-269.

8. Information from Tom Winn, 27 April 1978.

9. ACIR, pp. 84-6. Chessman, pp. 44-51. "Inflation - The Unseen Tax-collector," in Citibank - Monthly Economic Letter, January, 1977, pp. 8-10.

10. ACIR, pp. 86-87. Geoffrey Brennan, "Inflation, Taxation, and Indexation," in Policy Studies Journal, Spring, 1977, pp. 326-332.

11. ACIR, pp. 71-5. Tanzi, p. 222.

12. Tanzi, pp. 215-231.

